CHAPTER 4

COMBAT OPERATIONS

Great advantage is drawn from knowledge of your adversary,, and when you know the measure of his intelligence and character, you can use it to play on his weaknesses.

—Fredrick the Great, 1747

IEW supports Army combat operations in war, conflict, and, when necessary OOTW. Combat operations may involve heavy, light, or special operations forces. They may be large-scale during war or small-scale in OOTW. Commanders may conduct combat operations anywhere in their AO as part of close, deep, or rear operations. MI units and resources support the commander in executing offensive, defensive, and retrograde operations.

IEW SUPPORTS COMMANDERS

Commanders use IEW support to anticipate the battle, understand the battlefield framework, and influence the outcome of operations. IEW enables commanders to focus and protect their combat power and resources. All commanders use IEW to support force protection. And, while IEW support is required for every situation, each application will be tailored to the commander's requirements at each echelon and for each operation.

Combat Commanders use IEW to plan and execute operations. These operations may be combat operations during war or OOTW. Intelligence helps the combat commander understand the AO, visualize his battle space, and construct the battlefield framework. Intelligence shows where the commander can apply combat power to exploit threat vulnerabilities or capitalize on opportunities with minimum risk.

Combat Support Commanders use IEW to plan, execute, and protect support operations. For example, before establishing a communications site, a signal unit requires specific information on the capabilities of the enemy to intercept, locate, identify, and target friendly communications sites. The signal unit uses MDCI to assess vulnerabilities and plan force protection measures. During operations, the unit uses EP to counter enemy C^2W.

Combat Service Support Commanders use IEW to identify the vulnerabilities of CSS sites and operations to enemy action, both in the forward area and rear area. In addition, CSS commanders use intelligence to anticipate friendly logistic requirements and locate routes and positions for logistic operations. As an example, indicators of an enemy attack might cue the use of rear area security forces or the forward positioning of medical evacuation assets.

Understanding and building the battlefield framework is enhanced by melding MI "electronic cavalry" with traditional reconnaissance. By melding the "top down" intelligence of MI with the "bottom up" combat information gathered by cavalry and other combat arms reconnaissance assets, the G2 (S2) can give

commanders the information they need to visualize their battle space. Split-based operations further improve the commanders ability to understand and direct the battle by allowing them to receive reconnaissance and downwardly focused intelligence support during the battle while on the move. The linking of MI electronic cavalry with traditional reconnaissance, the ability to conduct split-based operations, and the availability of downwardly focused intelligence provide commanders the tools they need to win decisively on the battlefield. See Figure 4-1.

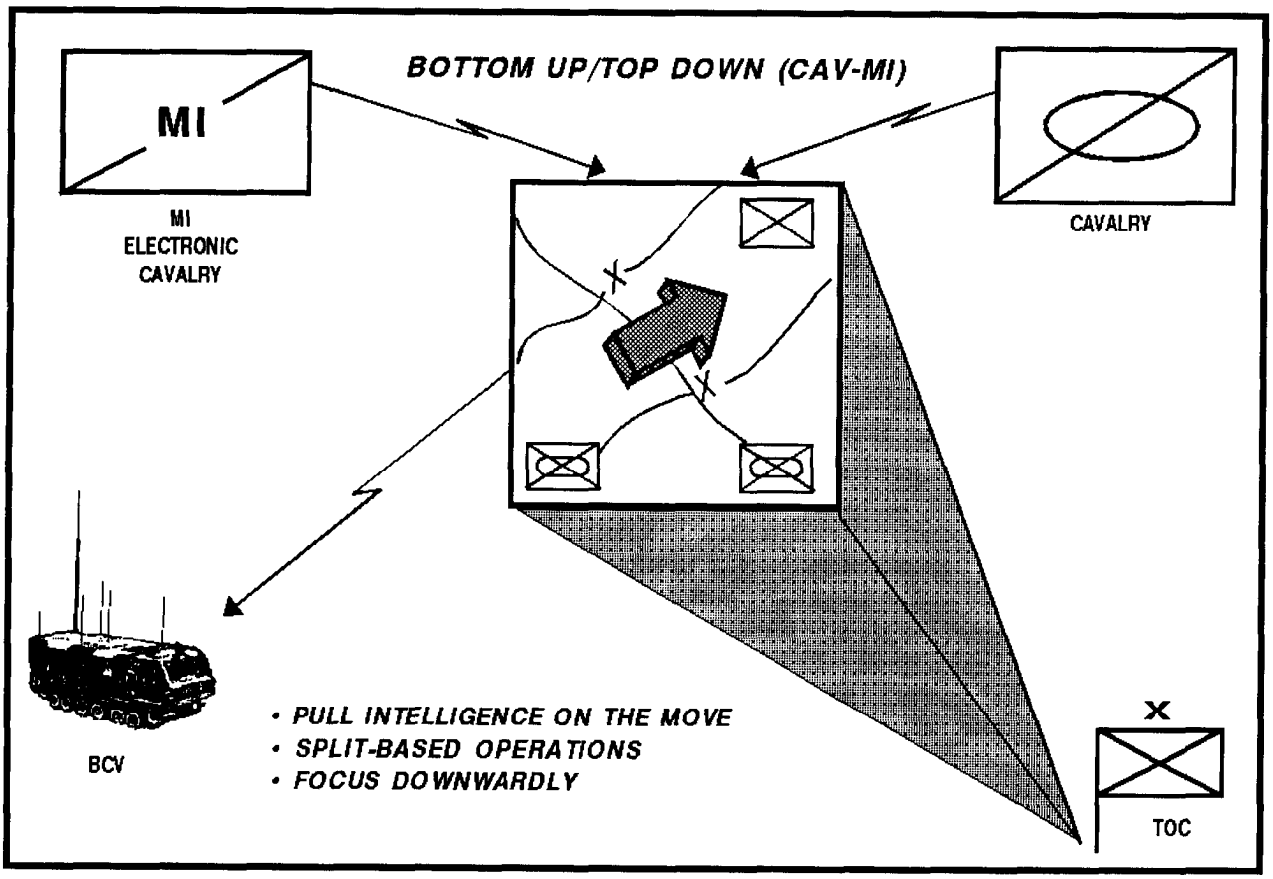

Figure 4-1. Melding electronic cavalry and traditional reconnaissance.

COMMANDER'S INTELLIGENCE TEAM

The G2 (S2) and MI commander are a team whose mission is to provide IEW support to the commander. As a team, they are responsible to the commander for planning and directing the intelligence activities of the command. Together, they develop standards for IEW training and operations.

The G2 (S2) is the commander's senior intelligence officer and primary staff officer for intelligence at Army service component-level through battalion. The G2 (S2) directs and supervises the commander's intelligence and CI operations.

He ensures the commander is supported with timely intelligence, targets, and BDA. The G2 (S2) ensures that the intelligence needs of all staff elements are addressed and supported. He coordinates the employment of IEW assets with the G3 (S3) and the FSO to ensure full integration of EW with the Fire Support BOS. He prepares and issues SORs to supporting MI units. The G2 (S2) maintains close and continuous contact with IEW elements at higher echelons to ensure his commander's critical IEW needs are understood and acted upon. The G2 (S2) supervises the intelligence training of the unit and his staff.

The MI commander executes IEW operations using his organic and attached assets. He is responsible for providinq the commander with a trained and mission-ready IEW force. He develops MI leaders capable of leading small teams in OOTW, and companies or battalions in war. In war and OOTW, the MI commander is responsible for the C^2, maneuver, sustainment, and protection of his MI unit. The MI commander ensures his unit executes the G2 (S2) intelligence SOR and G3 (S3) EW SOR in concert with the concept of operation. The MI commander anticipates the IEW operational requirements of future operations.

RANGE OF MILITARY OPERATIONS

IEW supports commanders across the range of military operations. Military operations are categorized as **peacetime, conflict, and war.**

Peacetime:

During the first environment, peacetime, the Army serves as a deterrent to war and helps keep tensions between nations below the threshold of conflict. Examples of peacetime operations are disaster relief and nation assistance.

Conflict:

The second environment, conflict, is characterized by confrontation and hostilities short of war. Examples of conflict are peacekeeping, noncombatant evacuation operations (NEO), counterinsurgency, and support to insurgency.

The Army classifies its activities during peacetime and conflict as OOTW. In addition to traditional intelligence, these operations require intelligence that identifies political, social, economic, and demographic issues. These needs might be as diverse as the identification of weather conditions that might interfere with disaster relief operations, or locating drug processing centers as part of counter-drug operations.

War:

The third environment, that of war, is a state of armed conflict which involves large scale combat operations against a state or nation. Wars may be limited or general in scope. Operation Just Cause is an example of a limited war. A general war is one in which major powers mobilize all national resources in a struggle for survival or dominance. World War II is an example of a general war. War requires multidisciplined intelligence which gives the commander the information necessary to successfully plan and execute military operations.

IEW AND THE TENENTS OF ARMY OPERATIONS

The following describe IEW and the tenets of Army operations:

Initiative:

Initiative sets or changes the terms of battle by action and implies an offensive spirit in conduct of all operations. The commander uses the intelligence system to gain advance warning and to anticipate probable enemy COAs. With foreknowledge of the enemy's intent, the commander can act or react faster than the enemy, avoid or neutralize enemy strength, strike at enemy weaknesses, and take maximum advantage of opportunities.

Agility:

Agility enables the commander to act or react faster than the enemy and is a prerequisite for seizing and holding the initiative. The commander uses the intelligence system to see and understand the entire battlefield, predict enemy COAs and vulnerabilities, and anticipate changes in the operational environment. With this intelligence, the commander can quickly recognize decisive points, anticipate the enemy COA, and rapidly adjust his plan to exploit opportunities or enemy vulnerabilities.

Depth:

Depth is the extension of operations in time, space, resources, and purpose. The commander uses the intelligence system to see the battlefield in depth, anticipate situations, and plan future COAs. Armed with intelligence, the commander conducts or influences operations which attack the enemy simultaneously throughout the depth of the battlefield, and forces the enemy to fight on the commander's terms. With knowledge of the enemy's disposition, movement, and intent, the commander safeguards his freedom of action by protecting his forces and resources needed for sustained operations from enemy action.

Synchronization:

Synchronization is arranging activities in time and space to mass at the decisive point. The commander integrates the activities of the Intelligence B0S with other BOSs to gain overwhelming combat power at decisive times and places. Intelligence predicts where and when those decisive points will occur. It provides commanders what they want (intelligence and targets), when they want it (in time to influence the operation), in the format they requested (immediately usable), and in concert with their concept of operations.

Versatility:

Versatility enables units to meet diverse mission requirements. The commander employs the intelligence system to acquire intelligence about potential enemy forces and operational environments. With this intelligence, the commander can rapidly and effectively shift his focus, tailor his forces, and move from mission to mission across the full range of military operations.

BATTLEFIELD FRAMWORK

Commanders build the battlefield framework by establishing relationships between the AO, the battle space, and the battlefield organization. This section addresses each of these parts as they relate to IEW.

Area of Operations:

Commanders allocate AOs to subordinate units based on METT-T and the unit's capability. The G2 (S2) assists the commander in allocating areas by providing him with the best intelligence on possible AOs. He advises the commander on the availability of information on the AO, the ability of the IEW system to cover those areas, and the support needed from other parts of the intelligence system. The G2 (S2) also coordinates with the G3 (S3) on deploying organic and supporting Ml units within the AO.

By knowing the AO, commanders at every level can anticipate developments, prepare options, and exploit battlefield opportunities. They can attack or defend over advantageous terrain, seize key terrain, and exploit weaknesses in the enemy's use of terrain.

Battle Space:

The commander's battle space extends beyond the boundaries of the AO. The dimensions and content of the commander's battle space change as the operation progresses. Within the battle space, the commander must understand the physical environment in which his forces will operate; employ available resources to their fullest capability; and integrate joint or combined assets which can be used to engage the enemy. The commander must also have an appreciation for the ability of enemy forces within and outside his battle space to jeopardize his operations. Understanding the battle space allows the commander to plan, organize, and synchronize his operations and successfully protect his force while dominating the enemy within the battle space.

Area of Interest:

In the context of IEW operations, the AI is the AO, the battle space, and the regions beyond the battle space. IEW operations directed at the AI attempt to identify enemy forces or other potentially hostile forces outside the battle space which could jeopardize current or future operations. In force projection operations, the AI could include areas through which US Forces must transit to reach the AO. Coverage of the AI would probably exceed the capabilities of organic IEW assets; therefore, the G2 (S2) must plan support from higher echelon and national intelligence activities to cover the AI.

Battlefield Organization:

Three closely related sets of activities **(deep, close,** and **rear area**) characterize operations within the AO. IEW supports these activities simultaneously in the following manner:

Deep Operations. IEW supports deep operations by—

- Dedicating adequate acquisition systems to effectively support targeting, deep attack, and BDA.
- Planning EW support, especially requirements for joint EW support.
- Identifying uncommitted enemy reserve forces.
- Conducting MDCI operations to prevent the enemy from gaining knowledge of deep OPLANs and preparations.
- Identifying enemy logistics assets, support infrastructure, and critical nodes.
- Supporting suppression of enemy air defenses (SEAD).

Close Operations. IEW supports close operations by—

- Providing tactical intelligence on the disposition, strength, weaknesses, composition, and intent of the enemy in contact.
- Conducting multidiscipline operations that support targeting and BDA.
- Conducting EA that disrupts or denies the enemy's effective use of C^2 and fire support communications.
- Providing predictive intelligence which includes identifying probable COAs for uncommitted enemy forces.
- Supporting SEAD.

Rear Area Operations. IEW supports rear area operations by—

- Assisting in identifying, analyzing, and early warning of potential threats to the friendly rear area.
- Identifying terrain which supports friendly rear area operations,
- Using OPSEC and EP to protect C^2 centers and systems.

OFFENSIVE OPERATIONS

The main purpose of offensive operations is to defeat, destroy, or neutralize the enemy force. Successful offensive actions take the fight to the enemy in such a way as to achieve decisive victory at the least cost. Offensive operations at all levels require effective IEW support to help the commander avoid the enemy's main strength, and to deceive and surprise the enemy. IEW helps the commander decide when and where to concentrate sufficient combat power to overwhelm the enemy. At the tactical level, effective

reconnaissance and counterreconnaissence are essential for the commander to preclude surprise from the enemy, maintain the initiative on the battlefield, and win the battle. Commanders at all levels synchronize intelligence and fires with their combat and CS systems to maximize their ability to see and strike the enemy simultaneously throughout the AO. IEW fundamentals apply to each basic form of offense.

Movement to Contact:

Movement to contact operations are conducted to develop the situation and to establish or regain contact. A movement to contact may take one of several forms: approach march; search and attack; reconnaissance in force; and meeting engagement. The extent and form of the operation depends on whether threat forces were previously in contact. Establishing and maintaining contact with the enemy is a central tenet of a movement to contact operation. The role of IEW in these operations is to ensure commanders have the intelligence they need to conduct mobile, force-oriented battles with minimum risk of surprise. For IEW operations, this means providing commanders with the enemy's locations, activities, and probable intentions with sufficient time to influence friendly operations. Traditional reconnaissance and security operations are a vital factor in finding and physically fixing the enemy. By effectively combining traditional reconnaissance and security operations with systems like the UAV and Joint STARS, IEW operations ensure commanders have the knowledge they need to execute movement to contact.

Attack:

The purpose of the attack is to defeat, destroy, or neutralize the enemy. The attack usually follows a movement to contact but is also used after defensive operations, exploitations, and pursuits. The commander must decide when to begin and end an attack based on its contribution to meeting his objectives. *Successful attacks* are preceded by *successful reconnaissance.* IEW operations help the commander identify the conditions needed to begin, conduct, and terminate an attack regardless of the type of attack.

Exploitation:

Exploitation is the extension of destruction of the defending force by maintaining offensive pressure. Such actions may include seizing objectives deep in the enemy rear, cutting LOC, isolating and destroying enemy units, and disrupting enemy C^2. Aggressive exploitation of enemy vulnerabilities can disintegrate and demoralize the enemy to the point where his only options are to surrender or withdraw. Commanders must be able to quickly recognize fleeting opportunities for exploitation or pursuit.

All of the attacking commander's information resources must immediately report indications of enemy vulnerabilities resulting from the initial attack. Increased enemy prisoners of war (EPWs), disintegration of enemy units after initial contact; disorganized defense, and capture or absence of enemy leaders are all indications of friendly opportunities to transition to exploitation.

IEW assets support the commander's decision to exploit by identifying exposed flanks or any weakness in the enemy's defense. They determine the enemy's intentions to defend in place, to delay, or to withdraw to other defensive positions. IEW resources confirm destruction of enemy fighting and support capabilities. They identify and locate vulnerable targets in the enemy rear area, such as communications, supply, and maintenance centers. They locate and track enemy forces which could counter exploitation forces.

Pursuit:

The pursuit is an operation against a retreating force and follows a successful attack or exploitation. When the enemy can no longer resist and decides to withdraw, the commander may elect to pursue and destroy the enemy force. Although the commander may not always be able to anticipate pursuit, he should always include withdrawal and retreat among enemy COAs considered in planning and wargaming.

Any of the commander's information resources can provide indications that the enemy force is abandoning its position and equipment, and retreating. The commander needs this information as fast as possible to transition from attack or exploitation to pursuit.

IEW assets continually report the enemy's location, direction, and rate of movement. They locate and track HPTs and report targeting data to FSEs the enemy force reconstitutes its defense, IEW resources report the time, place, and type of defense. They report any attempt to counterattack, outflank, or cut off friendly forces which have driven deep into enemy territory.

DEEFENSIVE OPERATIONS

The immediate purpose of defensive operations is to defeat an enemy attack. Since only offensive operations can destroy the enemy and win the battle, the ultimate purpose of defensive operations is to create the opportunity to shift to the offense. In the defense, commanders may use any combination of combat operations at different times and places on the battlefield to defeat the enemy. Commanders defend to buy time, hold key terrain, hold the enemy in one place while attacking in another, or destroy enemy combat power while reinforcing friendly forces. IEW fundamentals apply to both primary forms of defensive operations and to defense in depth.

Mobile Defense:

A mobile defense employs a combination of fire and maneuver, offense, defense, and delay to destroy the enemy and defeat his attack. Commanders employing a mobile defense attempt to get the most from terrain and obstacles while employing fire and maneuver to take the initiative from the attacking enemy. IEW supports the commander in gaining the initiative by identifying key terrain and potential enemy avenues of approach; tracking the enemy throughout his attack; supporting the targeting of the enemy's critical nodes and fire support assets; and aiding in the neutralization of enemy reconnaissance through deception and EW. Most importantly, intelligence

helps the commander identify the place and time when the enemy is most vulnerable to a decisive counterattack by the friendly mobile striking force. IEW should determine the enemy's strength, intent, main avenue of approach, and location of his follow-on forces. The defending commander can then decide where to arrange his forces in an economy of force role to defend, yet still shape the battlefield. This will afford him the time necessary to commit the striking force precisely.

Area Defense:

An area defense focuses on denying the enemy access to designated terrain for a specified period of time, rather than on the outright destruction of the enemy. The commander conducts area defense by using a series of mutually supported positions in depth. IEW support in area defense identifies, locates, and tracks the enemy's main attack and provides the commander time to allocate sufficient combat power to strengthen the defense at the point of the enemy's main effort. Intelligence should also identify where and when the commander can most decisively counterattack the enemy's main effort or exploit enemy vulnerabilities.

Defense in Depth:

In the defense as well as in the offense, operations in depth are the basis for success. Simultaneous application of combat power throughout the depth of the battle space defeats the enemy rapidly with minimum friendly casualties. Commanders conducting combat operations in depth require IEW support for deep, close, and rear operations.

Deep Operations. MI units provide early warning of enemy approach. They find, track, and target enemy forces enabling the commander to attack them effectively at long range. Corps and division aerial resources, LRSUs, theater, other services, and national systems provide information needed for deep operations. The primary tasks of deep IEW are to identify the enemy's main effort and support target development. Deep collection operations locate such HPTs as enemy second and follow-on echelons, critical C^2 nodes, reconnaissance elements, FSEs, and logistics trains.

Close Operations. Close operations are the activities of the main and supporting efforts in the defensive area to slow, canalize, and defeat the enemy's major units. The success of close operations depends on aggressive maneuver and counterattack as well as successful defense of key positions. As the enemy attack begins, the commander's first concerns are to identify the enemy's committed units and direction of attack, and gain time to react. The first sources of this information will be reconnaissance and security forces, MI units, SOF, and air elements conducting deep operations. Commanders rely heavily on combat information for immediate reports of enemy activities and vulnerabilities. Combat information from units in contact supports friendly fire and maneuver to attack exposed HPTs and vulnerable enemy units.

IEW resources concentrate on tracking enemy units, providing early warning of threats against exposed flanks, gaps in defensive positions, or any attempt to outmaneuver the defending force. IEW identifies and targets HPTs,

supports OPSEC and deception, and conducts EA coordinated with planned fire and maneuver.

Close IEW strives to identify the enemy's intentions and main effort as early as possible to support the commander's battle planning. The commander ensures that the G2 (S2) collection strategy supports the PIR and IR developed for the operation.

Rear Operations. Rear operations sustain friendly, close, and deep combat operations. Successful defense in friendly rear areas prevents disruption of C^2, fire support, logistics, and movement of reserves. The threat to rear operations includes all enemy deep battle forces: conventional ground, air, and missile forces; unconventional forces; enemy agents; and sympathizers.

The keys to rear area defense are sound planning, early warning, continuous OPSEC, and immediate deployment of sufficient forces and resources to counter any threat.

Detection of the enemy is the responsibility of every soldier in the command and all intelligence collectors at every echelon. The operations and intelligence section of the RAOC coordinates intelligence preparation for rear operations. The RAOC recommends intelligence requirements to the G2 (S2) for consolidation into the unit's PIR and IR. The RAOC also requests intelligence collection, MDCI, and CA support for rear operations. MDCI personnel and interrogators provide HUMINT to identify and help neutralize enemy agents, sympathizers, and unconventional forces in the rear area.

Other IEW assets may, on order, redirect their efforts from deep and close operations to support combat operations against a rear area threat from conventional forces. The corps depends on EAC and national systems for early warning and intelligence on threats from beyond the corps' AO, such as an attack by enemy airborne forces.

RETROGRADE OPERATIONS

Retrograde operations are maneuvers to the rear or away from the enemy. The purpose of a retrograde operation is to improve the situation for the friendly force, draw the enemy into an unfavorable position, regain the initiative, and defeat the enemy. Units conducting retrograde operations conceal the movement of the main force and avoid decisive engagements. IEW supports all retrograde operations by tracking the disposition of the enemy force and denying the enemy intelligence on movement of the friendly force. Retrograde operations are more effective when deception and OPSEC confuse the enemy about the true disposition of the friendly force. There are three types of retrograde **operations—delays, withdrawals,** and **retirements.**

Delays. In delays, the commander yields ground to gain time, retain freedom of action, and inflict the greatest possible damage on the enemy, IEW support concentrates on measures that obscure the size and intent of the delaying force and create the element of surprise, Each time the enemy commander is engaged by the delaying force, he must be convinced through

the application of combat power, deception, and OPSEC that he has engaged the main force. This causes the enemy commander to stop, deploy his forces, and prepare to attack or defend. The delaying force then disengages and withdraws to the next delay position.

Withdrawals. Commanders conduct withdrawals to avoid combat under undesirable conditions, preserve the force, adjust defensive positions, or relocate the entire force. In all withdrawals, the commander attempts to deceive the enemy. Some friendly elements remain in contact and simulate activity of the larger unit, including electronic activity, to mask the withdrawal from enemy intelligence. MDCI teams monitor the simulative deception based on OPSEC evaluation of normal friendly force signatures, patterns, and profiles.

Retirements. Retirements are rearward movements conducted by units not in contact with the enemy. The commander retires his force to shorten LOC, remove the force from the area of combat, or reposition the force to permit its use elsewhere. IEW support includes determining routes and favorable terrain for the retirement; identifying enemy forces which could interdict the movement; and denying the enemy knowledge of the operation.

MILITARY INTELLIGENCE UNITS

MI units are organized to support a wide range of possible missions. The doctrinal principles for the C^2 and employment of MI units are similar to those used by non-MI units (for example, field artillery [FA] or engineer units). FM 101-5 discusses the doctrinal principles and TTPs on how to command and control units. This section briefly discusses the C^2 and employment considerations of MI units.

Tailoring the Force:

When the commander receives a mission, he considers METT-T and the capability of his assets in tailoring the force to optimize IEW support. To ensure continuous and responsive IEW support, he establishes early the C^2 structure and means required to effectively C^2 IEW assets. The commander also—

- Designates the command relationship of subordinate units. (Options include assigned, attached, or operational control [OPCON].)
- Designates the support relationship of subordinate units. (Options include direct support [DS], general support [GS], reinforcing [R], and general support-reinforcing [GS-R].) These are also called standard tactical missions.

An example of a support relationship is the DS MI company habitually associated with a maneuver brigade. The mission of the company commander is to support the maneuver brigade commander. However, the company commander retains the authority to organize his unit as he judges to accomplish the mission. At the same time, the MI battalion commander helps the company commander support the maneuver brigade commander (much like the division artillery [DIVARTY] commander helps the DS FA battalion commander support the maneuver commander). FM 101-5 contains additional information on command and support relationships.

Planning IEW Support:

When the MI commander receives a mission, he conducts the decision making process like any other unit commander. The SORs become the specified tasks that drive mission analysis. Implied tasks will include the maneuver and support of subordinate MI units so that they can accomplish the specified tasks.

The MI commander's concept of operation revolves around the organization, deployment, allocation, and employment of subordinate MI units necessary to accomplish the IEW requirements throughout the mission. To satisfy his collection or EW mission, he will forward deploy systems into air or groundspace owned by other units. This requires coordination with forward maneuver units.

Executing IEW Support:

During execution, the MI commander follows the supported commander's operation and attempts to anticipate IEW tasks required to sustain the operation or execute subsequent COAs. He ensures MI units in GS accomplish assigned tasks and continues to provide DS MI unit commanders with intelligence and logistics support. The following tasks assist the MI commander in successfully executing his unit's IEW mission:

Track the battle. The MI unit continually monitors the progress of the supported unit and satisfaction of tasks directed in the SOR, the collection plan, and the intelligence synchronization matrix. This enables the MI commander to anticipate rapidly changing priorities and deadlines for IEW support.

- Know MI unit status. The MI commander must know the status of IEW personnel and systems at all times. He must ensure that collection managers also know the status of all collection assets under his control. Timely, accurate status reporting enables the commander and his staff to monitor the execution of collection plans and make adjustments, when necessary, to ensure synchronization with the operation.

- Coordinate employment of MI units. A maneuver unit generally owns the ground- or airspace for each collection location. The MI commander coordinates movement and use of space to minimize the possibility of fratricide and risks from enemy action.

- Reference all reporting to original SOR. The MI unit annotates reporting with the SORs it supports.

Because of the dynamics of combat, the MI commander may frequently have to reposition and redirect the employment of his assets. Sometimes he must adjust forward asset locations to ensure protection by friendly maneuver forces. To sustain this protection, the MI unit commander must know when the maneuver unit withdraws or moves forward and have a well-rehearsed plan to conduct a complementary move.

Survivability of IEW assets is essential in any type of operation. Consistent with security and communications requirements and mission responsiveness, IEW assets should disperse to the maximum extent possible and apply all possible OPSEC measures.

FMs 34-10, 34-25, 34-37, and 34-80 discuss TTPs for the organization of intelligence assets at brigade, division, corps, and theater.

Sustaining MI Units:

Sustaining MI units is similar to logistics required for other combat support units operating at the operational and tactical levels. However, MI units are distinctive in that they are equipped with some low-density and classified IEW systems requiring specialized maintenance and components. A sustainment challenge for MI unit commanders is to provide logistics support to subordinate units which are widely dispersed in the AO but are not attached to the maneuver unit in whose area they are operating. For example, some low-density IEW systems can only be serviced by contractors. To maintain these systems, MI unit commanders must establish some mixture of equipment evacuation and forward deployment of civilians.

Sustaining combat effectiveness of MI units requires commanders and staffs to follow the five logistic imperatives addressed in FM 100-5 and FM 100-10. These imperatives are discussed below:

Anticipate. Commanders and staffs must anticipate IEW logistics requirements before and during operations.

Integrate. Commanders and staffs must integrate IEW logistics requirements and support concepts into strategic, operational, and tactical plans.

Continuous. Through planning, commanders and staffs must ensure continuity of support during operations and reduce the possibility of diminished combat effectiveness through lapses in support, particularly IEW system maintenance.

Responsive. Commanders must be supported by a responsive logistics operation capable of reacting rapidly to unforeseen situations.

Improvise. Commanders and staffs must be able to improvise logistics solutions to unforeseen situations that mean the difference between success and failure of IEW support to the operation.

Currently, IEW equipment maintenance is performed within the four-tiered system—unit, DS, GS, and depot. Due to the transformation from a forward deployed Army to a force projection Army, MI is moving towards the two-tiered system—field and sustainment with the rest of the Army. Unit and DS are under the field tier. The sustainment tier includes GS and higher. The goal is rapid repair as far forward as tactically feasible. Due to low-density and different generations, of IEW equipment in the field, the transition from four to two tiers will not occur at the same rate for each type of equipment.

Commanders and logistics personnel must contend with the following problems that, in some ways, are peculiar to IEW equipment.

- Beyond the year 2010, MI will conduct operations using equipment that essentially covers three generations of technology. The IEW logistics manager must be able to support all of these equipment variants as they exist in the inventory. Failing this, certain items must be identified as nonsupportable and be removed from the inventory so that scarce resources will not be diverted to nonproductive ends.

- The small number of most IEW systems make their procurement, replacement, and repair expensive when compared to other items such as wheeled vehicles, where economies of scale can be realized. Consequently, IEW logistics planners must ensure that adequate funding exists to support and field equipment at all levels.

- Combined with low-density, the per unit cost to repair parts and components for IEW equipment is higher than the cost for items purchased in greater numbers, regardless of complexity. This lends urgency to the requirement to thoroughly manage both end items and support packages from strategic to tactical levels of logistics.

- For some IEW systems, technical competence to repair or replace may only exist at the original equipment manufacturer (OEM) level. As the levels of technology continue to rise, more IEW equipment will be nonrepairable or even nondiagnosable at the unit or perhaps anywhere below the OEM level. This will lead to throw-away equipment, direct exchange with the manufacturer, or salvaging by repairing parts from the repair prescribed load list (PLL).

- Adherence to normal Army logistics systems and procedures may not always be possible.

PROCESSING AND DISSEMINATING INTELLIGENCE

Commanders and G2s (S2s) must thoroughly plan the intelligence processing and dissemination structure required to support military operations. Communications and ADP equipment connectivity, capacity, and redundancy must be in place at the beginning of each operation to ensure seamless muitiecheloned intelligence support from national intelligence centers down to the combat commander in the field.

The intelligence networks, planned and used in peacetime, should be similar to, if not the same as, those used during military operations. Communications and ADP used by MI units to process and disseminate intelligence in garrison, should also be used by these units when they deploy. Once established in the AO, communications and ADP capabilities, connectivities, and interfaces must remain flexible enough to adjust to changing operational requirements.

Processing and Disseminating Capabilities:

Systems such as the ASAS and TROJAN SPIRIT represent major leaps in MI's ability to process and disseminate intelligence. These and other systems like them provide the commander and G2 (S2) with the ability to—

- Receive and transmit digital imagery, templates, graphics, terrain products, and bulk data bases.
- Conduct split-based operations simultaneously between CONUS, outside continental United States (OCONUS), and deployed forces.
- Access and pull intelligence from worldwide multiechelon data bases at national, theater, corps, and division from deployed MI units.
- Receive direct broadcast dissemination of intelligence and targeting data.
- Collate, analyze, and synthesize information into intelligence products tailored to the echelon.

Echelon Connectivity:

Connectivity for intelligence interfaces between echelons must be planned and maintained continuously to ensure the commander receives timely and responsive intelligence support throughout the operation. Critical intelligence products must be capable of uninterrupted flow from national to deployed units.

This connectivity is achieved by linking existing communications networks such as the Defense Secure Network 3 (DSNET3) with the organic and special purpose systems of the deployed force. Special purpose systems like TROJAN SPIRIT and TENCAP require early planning to ensure connectivity and access to national intelligence support networks and systems. Gateways and protocols for exchanging information between and among all intelligence systems must be planned early and exercised in garrison to ensure successful operations.

INSCOM plays a valuable role in providing connectivity and gaining access to national systems and organizations.

Automation in Analysis and Synthesis:

Intelligence and communications systems can easily overwhelm a CP with information. The G2 (S2) establishes electronic and human "pertinence filters" to weed out irrelevant information. He must also take advantage of the computers ability to establish a relational data base of messages. This will enable analysts to access all information that falls within the specified location, time, and subject parameters. In collection management, relational data bases and automated journals allow complete and thorough cross-indexing, solving many of the problems collection managers often experience in relating requirements to reports, and tracking dissemination. He must also plan and train for operations without computer support due to power or system failure.

ELECTRONIC WARFARE PLANNING

EW planning is crucial to the success of C^2W operations. The effectiveness of EW operations depends upon the degree to which they are integrated with the commander's scheme of fire and maneuver. Systematic planning and full understanding of employment factors are critical to achieving full integration.

Effective EA requires timely intelligence and must be synchronized with critical events. The desired result determines the method of EA. This is especially important since many IEW systems can identify targets to the accuracy required by lethal fire systems. The thought should be, "Why jam when I can kill?" If the decision is to use nonlethal EA, then use it to maximize enemy confusion and minimize the loss of continuity on ES exploitable targets. If lethal fire is used, then coordinate support actions with the appropriate staff personnel. Regardless of which type of EA is used, it must be part of a well-coordinated action.

The tools that allow for effective EA and EP are the EW estimate and the EW annex. The estimate is prepared by the G3 staff and EWO based on the commander's guidance. It is coordinated with the MDCI analysis section which has the responsibility for assessing enemy intelligence capabilities. The EW estimate is a logical presentation of enemy and friendly EW capabilities as they relate to a given mission. It includes EW options available to the commander and weighs the relative merits of each.

The EW annex contains the details of EW mission, concept, and tasks to be performed by elements of the force. It describes how EW is used to support the operation. The G3, with input from the G2, EWO, and signal officer, prepares the EW annex in the 5-paragraph OPORD format. Amplifying details are covered in appendixes to the annex. For example, separate annexes for electronic deception, signal, and EP may exist. FM 34-40(S) provides samples of EW estimates and annexes.

The G3, G2, EWO, and FSO continually assess the effectiveness of EW operations. Assessment is crucial to the EW process. It identifies strength and weaknessses in current EW operations and provides a base of knowledge for planning and executing future operations. Assessment is conducted at each step of the EW process to ensure that EW operations are responsive to the commander's needs.

IEW SUPPORT IN SPECIAL ENVIRONMENTS

The following describe some operational and sustainment considerations of IEW operations in special environments:

Desert:

Desert operations involve rapid movement of troops, good observation, long fields of fire, mandatory use of deception, and a lack of what might normally be considered key terrain. Consider the following when planning IEW operations in a desert environment:

- **Operational.** Desert expanses necessitate wide dispersal of Ml units and IEW systems. The desert climate causes some degradation in amplitude modulation (AM) and frequency modulation (FM) radio communications due to thermal heating and dead spots. IMINT systems may be subject to heat-wave distortion. The collection capability of SIGINT systems may also be reduced by seasonal atmospheric conditions.

  MI units must consider how to employ IEW assets during rapid movement of maneuver forces across desert terrain. Stopping and establishing a collection site may cause the MI unit to fall behind the supported unit and quickly place it out of range of the enemy targets. Staying with the maneuver force will prevent collection operations and limit access to high capacity intelligence communications systems. For MI aviation assets, blowing sand and high winds may prevent or limit airborne collection operations which could keep pace with rapidly moving forces.

- **Sustainment.** Wind-blown dust and sand are responsible for increased wear and tear on equipment and, therefore, increasing maintenance and supply requirements. Operator maintenance of equipment is required continuously to keep sand and dust out of the equipment.

FM 90-3 contains additional information on desert operations.

Jungle:

Jungle operations are affected primarily by climate and vegetation. Both factors constrain IEW operations and sustainment capabilities. Consider the following when planning IEW operations in a jungle environment:

- **Operational.** Ground mobility restrictions require that IEW systems be lighter, manportable, and rugged. The same restrictions can increase reliance on helicopters for transport and IEW operations. IMINT

systems will be degraded by jungle terrain. The dense vegetation, cloud cover, and precipitation will conceal targets. Some radar systems may be unable to penetrate the jungle depending on the density of vegetation and type of system used.

- **Sustainment.** Jungle operations require increased daily operator maintenance of equipment due to a high incidence of rust, corrosion, and fungus caused by high jungle moisture. Troop health hazards—including gastrointestinal disease, immersion foot, and fungus infection—are prevalent. Reliance on helicopter mobility for supplies is increased.

FM 90-5 contains additional information on jungle operations.

Mountain:

Mountain operations are characterized by reduced ranges for direct fire weapons, increased importance of indirect fire, canalized mobility along valley floors, decentralized combat, increased collection operations from heights dominating LOCs, and reduced C^2 capabilities. Consider the following when planning IEW operations in mountainous terrain:

- **Operational.** Use IEW systems that are light, rugged, and portable to exploit the advantages of higher terrain. Irregular terrain patterns create dead space which reduces the effectiveness of EW and degrades C^2. Use the mountain heights for observation posts to reduce the effect of terrain masking.

- **Sustainment.** The key to sustainment in mountain environments is training. The increased altitudes in mountain combat will affect a soldier's mental alertness, cause dehydration and sickness, and increase fear of heights.

FM 90-6 contains additional information on mountain operations.

Urban:

Military operations in urban terrain are characterized by shorter engagement ranges, structural obstructions to visual and electronic line of sight (LOS), and the addition of a new vertical dimension provided by subterranean structures such as sewers and buildings. Consider the following when planning IEW operations in an urban environment:

- **Operational.** The nature of urban combat may necessitate decentralized operations. MI units are normally placed in DS of, or attached to, maneuver units assigned urban operations. DF operations are impeded because signals reflect off structures. The urban environment restricts the effectiveness of AM and FM communications. Whenever possible, consider using wire and operational civilian telephone systems. Urban operations also increase the requirement for linguists in non-English speaking countries due to the increased interaction with the indigenous population.

- **Sustainment.** There are no unique sustainment considerations for IEW equipment, supplies, and MI soldiers in an urban environment.

FM 90-10 contains additional information on urban operations.

Nuclear, Chemical, Biological:

The capability and willingness of a growing number of nations to employ NBC weapons makes it urgent that US Forces plan to fight in an NBC environment. US Forces cannot allow enemy surprise or first use of NBC weapons to decide the outcome of the conflict. The employment of these weapons drastically alters the traditional concept of fire and maneuver. Their use can rapidly and effectively decide the outcome of the battle.

Consider the following when planning IEW operations in an NBC environment:

- **Operational.** MI operational objectives are to survive and continue IEW operations in an NBC environment. Achieving those objectives require that MI leaders and soldiers fully understand the NBC weapons and the vulnerabilities of IEW systems. It also requires that individual soldiers and teams be well-trained and prepared to operate with minimal mission degradation. Prestrike actions include OPSEC measures which help a unit avoid becoming a target.

- **Sustainment.** When NBC weapons are used, catastrophic losses may occur in seconds or minutes. Regeneration of combat power must be initiated immediately. The commander will have an immediate need for intelligence on which to base tactical decisions and force reconstitution. With the havoc that can be created by NBC weapons, MI units must recover rapidly for their own survival as well as that of the combined arms team.

FM 3-100 contains additional information on nuclear, biological, chemical operations.

Cold Weather:

Winter conditions have a significant effect on IEW operations due to brittleness of antennas, ice and fog on optic sights, and ice loading on antennas and intake filters. Consider the following when planning IEW operations in a cold weather environment:

- **Operational.** MI units operating in a cold weather environment should be afforded a higher than normal density of IEW systems due to severe terrain and climate conditions. Consider requirements for increased setup time to stabilize temperature and humidity so signal equipment will not fail.

- **Sustainment.** Units preparing for cold weather operations require larger than normal PLLs and authorized stockage lists (ASLs). Higher PLL usage should be expected for hoses, lubricants, filters, spark

plugs, and all types of seals. For soldiers, there is greater susceptibility for frostbite, trench foot, and the effects of vision whiteouts and high windchill factors.

FMs 31-70, 31-71, and 34-81 contain additional information on cold weather operations.